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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,564	01/05/2001	Marc Lamberton	FR920000023US1	4934

25259 7590 06/07/2004

IBM CORPORATION  
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EXAMINER

TRAN, ELLEN C

ART UNIT	PAPER NUMBER
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2134

DATE MAILED: 06/07/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/755,564

Applicant(s)

LAMBERTON ET AL.

Examiner

Ellen C Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**NORMAN M. WRIGHT**  
**PRIMARY EXAMINER**

**DETAILED ACTION**

1. This action is responsive to communication: original application filed 15 January 2001, with acknowledgement of a foreign priority date of 12 May 2000.
2. Claims 1-14 are currently pending in this application. Claims 1, 7, 11, and 14 are independent claims.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

4. **Claims 1-15** are rejected under 35 U.S.C. 102(e) as being anticipated by Denker U.S. Patent No. 5,958,053 (hereinafter '053).

**As to independent claim 1, "A method for defeating, in a server unit of an IP (Internet Protocol) network, a SYN flooding attack, said server unit running TCP (Transport Control Protocol) to allow the establishment of one or more TCP connections with one or more client units, said method comprising the steps of: upon having activated TCP in said server unit:"** is taught in '053 col. 4, lines 44-55;  
**"listening for the receipt of a SYN message sent from one said client unit"**  
**and "resuming to said listening step"** is shown in col. 6, lines 59-60;

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**“upon receiving said SYN message: computing an ISR (Initial Sequence number Receiver side); responding to said client unit with a SYN-ACK message including said computed said ISR”** is disclosed in col. 4, lines 58-64.

As to dependent claim 2, **“wherein the step of computing said ISR further includes the steps of: concatenating a randomly generated key with an identification of one said TCP connection said identification including: a client socket and a server socket; hashing said concatenation, thus obtaining a server signature; concatenating said server signature and a category index referring to a set of predefined TCP connection categories; thereby, obtaining a computed ISR”** is taught in ‘053 col. 7, lines 47-67.

As to dependent claim 3, **“wherein said computing step further comprises the steps of: updating, in said server unit, a pseudo-random number (PRN) generator; holding a current key; remembering a former key; and using said current key as said randomly generated key for said computed ISR”** is shown in ‘053 col. 10, line 50 through col. 11, line 3.

As to dependent claim 4, **“wherein the step of concatenating said category index includes the further step of picking up a category index within said set of predefined connection categories on the basis of the content of said received SYN message”** is disclosed in 053 col. 7, lines 47-67.

As to dependent claim 5, **“wherein said updating step includes the step of: updating said PRN generator at a rate not higher than an MSL (Maximum**

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**Segment Lifetime) defined in said TCP connection”** is taught in ‘053 col. 7, lines 47-61.

As to independent claim 6, **“A method for defeating, in a client unit of an IP network, a SYN flooding attack, said method comprising the steps of upon receiving a SYN--ACK message from a server unit: normally responding with an ACK message, said step of normally responding comprising the step of: including, in said ACK message, a computed ISR incremented by one”** is shown in ‘053 col. 4, lines 44-67.

As to independent claim 7, **“A method for defeating, in a server unit of an IP network having a TCP connection, a SYN flooding attack, said method comprising the steps of: upon having activated TCP in said server unit”** is disclosed in ‘053 col. 4, lines 33-54;

**“listening for the receiving of an ACK message sent from one client unit” and “in either case: resuming said listening step”** is taught in ‘053 col. 6, lines 59-60;

**“upon receiving said ACK message: checking an ISR” and “if passing said checking step: decoding said ISR as being an authentic computed ISR; allocating resources for said TCP connection according to content of said computed ISR; establishing said TCP connection”** is shown in ‘053 col. 5, line 1-3;

**if failing said checking step: dropping said ACK message;”** is disclosed in ‘053 col. 5, lines 40-42.

As to dependent claim 8, **“herein the decoding step includes the step of interpreting a category index extracted [[688]] from said computed ISR”** is taught in ‘053 col. 5, lines 1-8.

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As to dependent claim 9, “wherein the allocating step includes the step of: selecting a predefined set of parameters, for said TCP connection, on the basis of the value of said category index” is shown in ‘053 col. 11, lines 25-50.

As to dependent claim 10, “wherein the step of checking said ISR includes, upon receiving said ACK message, the steps of: having, firstly, selected said current key: getting said selected key; concatenating said selected key with an identification of said TCP connection” is disclosed in ‘053 col. 5, lines 1-8;

“said identification including: a client socket and a server socket” is taught in ‘053 col. 7, lines 46-61;

“hashing said concatenation, thus obtaining a re-computed server signature; extracting an acknowledgment field from said ACK message” is shown in ‘053 col. 9, lines 2-13;

“decrementing content of said acknowledgement field; extracting said server signature” is disclosed in ‘053 col. 11, lines 29-50;

“comparing said re-computed server signature and said extracted server signature; if said extracted server signature and said re-computed server signature match: extracting said category index; if said extracted server signature and said re-computed server signature to not match: checking if a second loop status is set” is taught in ‘053 col. 9, lines 20-33;

“If not set.: selecting a former key [[698]]” is shown in ‘053 col. 10, line 66 through col. 11, line 3;

“setting a second loop status; resuming execution at said getting step; if set: failing said checking step” is disclosed in ‘053 col. 10, lines 50-65.

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**As to independent claim 11**, this claim is directed to the computer program product of claim 1 and is rejected along the same rationale.

**As to dependent claims 12 and 13**, these claims contain substantially similar subject matter to claims 2 and 3 therefore they are rejected along the same rationale.

**As to dependent claim 14**, this claim is directed to the system of the method of claim 1 and is rejected along the same rationale.

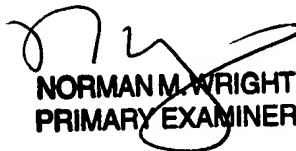
***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen C Tran whose telephone number is (703) 305-8917. The examiner can normally be reached on 6:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A Morse can be reached on (703) 308-4789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5484.

Ellen Tran,  
Patent Examiner  
Technology Center 2134  
27 May 2004

  
**NORMAN M. WRIGHT**  
**PRIMARY EXAMINER**